DUNKARD CREEK-22JanY2K12

Making wastewater potable: feasible, but getting over the yuck factor is tough
Sunday, January 22, 2012
By Don Hopey, Pittsburgh Post-Gazette

Used to be you could flush it and forget about it, but not anymore.

Advances in wastewater treatment technology and design make it possible to convert sewage wastewater to potable water and a variety of other more palatable uses, according to a report by the National Research Council, an arm of the National Academies.

The study, released earlier this month, said the ability to reuse "reclaimed water" for drinking supplies, irrigation, recreational and industrial purposes, and well as to replenish depleted aquifers and surface water, could play a significant role in meeting future water supply needs, especially in coastal areas facing fresh water shortages.

In addition, the study's analysis of advanced treatment processes, including reverse osmosis filtration, carbon absorption and oxidation, found that health risks from exposure to chemical contaminants and disease-causing microbes in the reclaimed water do not exceed and in some cases may be lower than in existing water supplies.

"Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said R. Rhodes Trussell, president of Trussell Technologies in California and chair of the committee that wrote the report. "Although reuse is not a panacea, wastewater discharged to the environment is of such quality that it could measurably complement water from other sources and management strategies."

But making nature's water cycle much more personal by piping reclaimed water directly to the water tap is highly unlikely in southwestern Pennsylvania, where water is abundant and relatively clean, said Stanley States, water quality manager with the Pittsburgh Water and Sewer Authority, which draws water from the Allegheny River for its 400,000 customers.

"Pittsburgh is blessed. We have lots of water and it's good quality," Mr. States said. "There isn't any reclamation done here and it doesn't need to be."

He said reclaimed wastewater is used now for irrigation in California, to water golf courses in Florida and for snow-making by Seven Springs, the ski resort in the Laurel Highlands. Other ski resorts in California, Arizona and around Lake Tahoe on the California-Nevada border also make snow with reclaimed water.

Mr. States said he knows of only one city -- Windhoek, the semi-arid capital of Namibia, in Africa -- where, due to scarcity, reclaimed water is used to directly and significantly supplement the drinking water supply. There it makes up about 25 percent of tap water.

"The problem is the aesthetics," he said. "Technologically we could do it. Psychologically, no one would drink it. Who's going to line up to drink it unless they absolutely must?"

But a number of factors could make use of reclaimed water a must for drinking in the U.S. sooner rather than later despite the high public "yuck" factor, said Jorg Drewes, a professor of civil and environmental engineering at the Colorado School of Mines and a member of the national Research Council who worked on the report. Those include the increased urbanization of the American population and migration to areas of the coastal South and desert Southwest where water is already scarce.

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Water reuse projects can have widely varying costs, the report noted, but Mr. Drewes said there are high costs to importing water into a region where it is scarce.

"Adding freshwater resources as population grows is very difficult today in many areas," he said. "If an area runs out of water it can import it or use the drought-proof supply that is its local wastewater. That already has a pipe system to bring that water in. And in the long run, that's likely more viable and reliable than an imported water source."

Wastewater reclamation is also useful in areas that have both limited fresh water resources and discharge limitations, like the State College area in Centre County. There a growing population in five communities around Penn State University and a sewage system that discharges into Spring Creek, a small, high-quality cold-water trout fishery, caused the University Area Joint Authority to begin planning for water reclamation 13 years ago.

The authority built an advanced wastewater treatment facility that uses microfiltration and high pressure reverse osmosis membranes before disinfecting the flow in pressurized ultraviolet units. The reclaimed water is used to supply a commercial laundry, hotel laundry, carwash, golf course and for industrial heating and cooling. This summer the authority will begin pumping the water seven miles to Slab Cabin Run, a feeder tributary high in the watershed of Spring Creek to recharge surface water flows and the underground aquifer.

"The driving factor was the growth in the region but we also had a limited ability to discharge the treated wastewater into the high-quality stream," said Cory Miller, authority executive director. "We're not drinking the [reclaimed] water but we're using it to replace some drinking water uses."

The report, sponsored by the U.S. Environmental Protection Agency, the U.S. Bureau of Reclamation, National Science Foundation, National Water Research Institute and a dozen water supply districts in California, found that water reuse regulations differ widely among states and are not based on health risk assessments.

In Pennsylvania, Mr. Miller said, there are no state regulations specifically for water reclamation discharges. A draft water reuse manual was put together by the state Department of Environmental Protection in 2006 but never finalized.

"It's interesting that we have to get really complicated permits to discharge this really clean water into the stream," Mr. Miller said. "The state and the EPA are treating this as a wastewater discharge so we are required to get a National Pollutant Discharge Elimination System permit."

The report also recommended that federal regulations be updated to include a wider inventory of toxic substances and ensure a higher level of public health protections.

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DEP has new guidelines for oil and gas drilling
Sunday, January 22, 2012
Pittsburgh Post-Gazette

The Department of Environmental Protection announced new guidelines on Friday preventing certain oil and gas drilling projects, including those near high-value streams, from receiving an expedited permit review.

Those revised rules, which will also cover proposed drilling sites that lie within floodplains or involve contaminated lands, stems from a settlement reached last summer with the Chesapeake Bay Foundation, Talisman Energy USA Inc. and Ultra Resources Inc.

The Chesapeake Bay Foundation had filed a complaint in 2009 challenging the agency's process for expediting permits, pointing to several incomplete erosion-and-sediment control permits.

They reached a settlement with DEP nearly two years later, under which the agency agreed to revise its process.

Permits that still qualify to be expedited will be processed within 14 days, while others may be reviewed for up to 60 days. The agency also now may revoke an applicant's ability to request expedited reviews if they routinely submit problematic applications.

"As a result of this agreement, the department has met with stakeholders from industry and environmental organizations to develop a permit that provides both regulatory certainty and continued protection of the state's waterways," DEP Secretary Mike Krancer said.

State officials will accept comments on the new guidelines through March 21.

Myron Arnowitt, of the environmental advocacy group Clean Water Action, said the new process is an improvement, although he noted his group would like to see the accelerated process removed entirely.

First published on January 22, 2012 at 12:00 am

Charleston Gazette Sunday 22 January 2012:

The Marcellus Boom: How much shale gas is there?

January 20, 2012 by Ken Ward Jr.

Protesters stand in front of the Academy of Natural Sciences in Philadelphia before an appearance by Environmental Protection Agency (EPA) Administrator Lisa Jackson Friday Jan. 13, 2012. Residents of the small northeastern Pennsylvania town of Dimock, at the center of the political fight over natural gas drilling, joined environmental activists from elsewhere to rally Friday outside a conference on urban environmental issues. About a dozen residents of Dimock have sued Cabot Oil & Gas Corp., claiming the energy company caused contamination of wells when it extracted natural gas using a process known as hydraulic fracturing, or fracking. (AP Photo/Jacqueline Larma)

While the U.S. Environmental Protection Agency steps in to protect water supplies for the people of the Pennsylvania town of Dimock from natural gas drilling, West Virginia lawmakers are right now debating the huge tax breaks that Gov. Earl Ray Tomblin wants to offer to try to lure a natural gas "cracker" plant to our state to further the Marcellus Shale drilling boom.

We've written before about questions regarding the governor's proposal, and about his overstating the potential job impacts of this sort of a facility. It's clear that West Virginia and surrounding states are going to fall all over themselves trying to come up with giveaways for the cracker (despite questions about whether such programs are built on a strong foundation to protect the public's investment, as these reports from Good Jobs first suggest).

But how sustainable is the Marcellus Shale boom?

Sen. Joe Manchin, D-W.Va., has told us:

We all know that Marcellus Shale could truly be a game-changer for our great state. We are literally sitting on top of tremendous potential with the Marcellus Shale, and we need to work together to chart a path forward in a safe and responsible way that allows us to produce energy right here in America and create good-paying jobs for hard-working Americans.

The potential of Marcellus is truly remarkable. From an energy-development standpoint, we are on the cusp of something that could help us reduce our dangerous dependence on foreign oil that threatens both our national security and our economic security. It's so important that we develop our resources here at home, rather than continuing to rely on countries that don't like us very much and wish to do us harm.

Still, serious questions are being asked — not by political leaders, of course — about all of this. Some of these are summarized clearly in a piece by Chris Nelder for the online magazine Slate:

The recent press about the potential of shale gas would have you believe that America is now sitting on a 100-year supply of natural gas. It's a "game-changer." A "golden age of gas" awaits, one in which the United States will be energy independent, even exporting gas to the rest of the world, upending our current energy-importing situation.

The data, however, tell a very different story. Between the demonstrable gas reserves, and the potential resources blared in the headlines, lies an enormous gulf of uncertainty.

We don't yet know how much of the estimated gas resources will be economically recoverable or whether the projected production rates for some wells might be off by a factor of 10. We might have a 100-year supply of gas, or we might have an 11-year supply. We might realize economic and environmental benefits by transitioning trucking and coal-fired power generation to natural gas, or we might do so only to find ourselves out on a limb far more economically dangerous than the current peak and impending decline of world oil supply. We simply don't know, and we may not know for years to come.

Wonder if Sen. Manchin will hold a field hearing to address these questions …

This entry was posted on Friday, January 20, 2012 at 10:11 am

Shale Studies Pay Off; Students Enter Lucrative Jobs

January 22, 2012

By CASEY JUNKINS Staff Writer , The Intelligencer / Wheeling News-Register

MORGANTOWN - The natural gas drilling boom sweeping the tri-state region is paying dividends for those earning graduate degrees in geology or geophysics from West Virginia University.

"I have kids who are going out and making as much as $120,000 a year, right off the bat," said Tim Carr, WVU's Marshall Miller professor of geology.

Noting the number of students earning advanced degrees has jumped significantly with the increased development of the Marcellus and Utica shale fields, Carr said those students have gone to work for companies such as Chesapeake Energy, Consol Energy, EQT Corp., and Petroleum Development Corp.

Photo by Casey Junkins

West Virginia University graduate geochemistry students, from left, Michon Mulder and Andrea Sack, work with an isotope ratio mass spectrometer to test water samples.

"And right now, our employment rate for those graduating from our program is 100 percent," Carr added.

As some WVU graduates take their talents to work in the gas and oil industry, the university also offers programs for those interested in studying how drilling and fracking may impact local water supplies. Iowa native Michon Mulder and New York native Andrea Sack are two of the students studying isotope geochemistry to determine how gas drilling and coal mining may affect drinking water wells.

"I came to WVU because I wanted to get into the environmental side of the energy industry," said Mulder, who noted she studies samples drawn from water wells in the north-central West Virginia.

Though she is still in the midst of her studies, Mulder said she believes that methane found in drinking water supplies could get there by any number of means. She does not dismiss the possibility it could come from gas drilling, but said there are many other possibilities.

"There are really multiple sources of methane - coal operations, landfills, and organics," Mulder added, noting those who depend on water wells near drilling operations should get their water tested before such drilling.

Sack said she enjoys WVU, adding that there are great opportunities for students enrolled in the geology field right now.

"I am studying coal mine drainage," she said, adding that most of her samples come from abandoned coal mines throughout the state.

Though Carr believes the overall future for the Marcellus and Utica shale drilling is bright, he said low natural gas prices may lead some companies to scale back their operations in the "dry" gas regions of Pennsylvania and West Virginia. According to the New York Mercantile Exchange, or NYMEX, natural gas prices hovered around $2.40 per 1,000 cubic feet last week, sharply lower than they were in previous years.

The methane-dominated dry gas is much more ready for market by companies such as Columbia Gas and Mountaineer Gas than the "wet" gas. This gas contains methane and substances such as ethane, propane, butane and propane, which are collectively known in the industry as natural gas liquids, or NGL. Carr said much of Marshall and Ohio counties contain the wet gas, as do counties in eastern Ohio.

"There should be a shift to there being more activity in the wet gas regions because of the value of the NGL," he said. "And the farther west you go, the better chance that you are going to be able to get oil, which is much more valuable at this point."

Carr pointed out that by comparison to the low natural gas price, the price for a barrel of oil on the NYMEX last week was over $100.

Ohio oil and gas industry leaders believe the state's share of the Utica Shale may contain up to 5.5 billion barrels of oil, in addition to a bounty of NGL. Carr said the Marcellus formation also contains some oil, but it is difficult to retrieve at this point.

MicroSeismic Company Founder Speaks Out

January 22, 2012

By CASEY JUNKINS Staff Writer , The Intelligencer / Wheeling News-Register

MORGANTOWN - As the executive chairman and founder of the geophysical services company MicroSeismic, Peter Duncan knows a thing or two about drilling for oil and natural gas in shale formations like the Marcellus and Utica.

"We have drilled through these rocks for decades, but we never knew how to get the hydrocarbons out of them," Duncan told a group of students and professors during a presentation at West Virginia University last week.

That all changed with horizontal drilling, which allowed companies to access previously inaccessible pockets of gas from a single well site on the surface, Duncan said.

Photo by Casey Junkins

Peter Duncan, executive chairman and founder of the geophysical services company MicroSeismic, speaks about natural gas drilling and fracking at West Virginia University.

Hydraulic fracturing, or fracking, also is key to the gas boom. He said fracking is a process that has been used in the United States since the 1940s.

"This is not new technology," he said, noting about 2.5 million gas wells have been fracked over the years.

Founded in 2003, MicroSeismic pioneered the use of "microseismic monitoring," a process that allows workers to listen to the naturally occurring, low-energy seismic noise emitted from a gas reservoir during fracking. Such reservoir monitoring allows an operator to detect patterns of fluid movement and fracture development - which ultimately enables improved reservoir management.

"Our technology allows us to watch the rocks as they break," he said, noting this allows more precise fracking operations.

Some who live close to active fracking operations - such as in Wetzel and Marshall counties - have complained of the loud noise involved with the process. Duncan is fully aware of this side effect.

"A frack operation is a huge noise source," he said.

In terms of his overall outlook for drilling in the Utica and Marcellus shales, as well as North Dakota's Bakken Shale and the Eagle Ford and Barnett shales in Texas, Duncan believes the industry must move forward with safety as a top priority.

"Everyone wants this resource. It means jobs; it means highways; it means universities," he said. "But it needs to be done safely."

Editorial:

Alter Severance Tax Distribution

January 22, 2012
The Intelligencer / Wheeling News-Register

Coal severance taxes collected in West Virginia benefit every county, as well as state government. But coal-producing counties, the source of those revenues, receive larger shares.

For many reasons, coal still is king in the Mountain State - but natural gas can be viewed as an up and coming prince of sorts. Severance tax revenue from that natural resource should be treated much the same as that from coal.

Bills introduced in the Legislature would do just that. They would reserve 3 percent of severance tax revenue from gas and oil wells, up to a maximum of $20 million a year, for counties and municipalities where the two resources are produced. Delegate Erikka Storch, R-Ohio, introduced the measure in the House of Delegates. State Sen. Orphy Klempa, D-Ohio, introduced the Senate bill.

While both bills were products of the bipartisan Northern Panhandle caucus, they should have appeal in other regions of the state where gas drilling has increased dramatically during the past two to three years.

In fact, the idea should have appeal in many counties. The Marcellus Shale formation, the source of the new gas boom, underlies much of the state.

As officials in gas-producing municipalities and counties are aware, it certainly has been a blessing to local economies. At the same time it has increased costs for some local government services, including law enforcement.

Legislators were right to recognize coal-producing counties should receive higher percentages of severance taxes from that industry, which also affects the cost of local government operations.

By the same reasoning, bills introduced by Klempa and Storch should receive wide support among lawmakers from throughout the state. The measures should be approved with minimal changes and sent to Gov. Earl Ray Tomblin for his signature.

Group solicits assistance in restoring Glade Run Lake

By Jodi Weigand
VALLEY NEWS DISPATCH
Sunday, January 22, 2012

A conservancy group wants backing from neighboring municipalities to bolster efforts to restore Glade Run Lake in Middlesex.

The state Fish & Boat Commission drained the 52-acre lake in June because the dam was leaking.

The Glade Run Lake Conservancy, which is seeking nonprofit status, spoke recently to officials in Jefferson, Clinton, Richland and Buffalo townships and Saxonburg. They also plan to ask the Butler County Commissioners for their support.

"Their communities benefit from the lake as well," said Gail Oare of Middlesex, secretary for the conservancy.

The group's president, Siggy Pehel, also of Middlesex, said conservancy members will make a second visit to area officials in the spring to ask for a letter of support and a donation.

"We'll use that in our letterhead saying we have all these supporters," he said.

Clinton Township Supervisor Mary Zacherl said the board hasn't discussed whether to publicly support the conservancy.

"We do support their endeavors ... but we've made no stand other than to allow them to speak and say, 'Go for it,'" she said.

Glade Run is one of 16 "high-hazard" dams managed by the Fish & Boat Commission. The cost to restore the lake is about $4 million plus the expense of dredging.

The dam at Glade Run was built more than 40 years ago using state money from two state allocations for conservation projects known as Project 70 and Project 500, said Gary Moore, special projects coordinator for the Fish & Boat Commission.

But with no "significant" maintenance plan in place, the dams deteriorated over the years. If a dam becomes unsafe, the repairs must meet new standards under the 1996 National Dam Safety Program, which makes rebuilding more costly.

"We simply don't have the revenue to rebuild all of these," said Eric Levis, spokesman for the Fish & Boat Commission. The commission doesn't get state funding. Its revenue comes from fishing and boating license sales and some federal money, he said.

In the current economic climate, the state legislature likely won't dole out significant funding for such projects.

"In the state budget right now our revenue collection is short by $500 million dollars," said State Rep. Daryl Metcalfe, R-Cranberry. "There won't be additional room for grants."

He said the best hope for revenue is for the conservancy to raise private money and work with the Fish & Boat Commission, which is trying to generate revenue by leasing some of its land for Marcellus shale gas well drilling.

Sen. Jane Orie said Glade Run was next on the list for repairs under a state program called H2O, which dedicated money for dams and waterways, but funding was eliminated because of budget cuts.

Orie said she would like to see money from a Marcellus shale gas well drilling impact fee being considered in the state Legislature be used to reinstate the program.

"Since the moment the announcement was made to drain the lake, I've been working with community leaders to try and get it back open," she said. "It's a priority for me. It's an asset for the whole area."

It took grassroots groups that formed to restore three other lakes that were drained at least five years to raise money, schedule repairs and refill the lakes, Moore said.

The conservancy, headed by four officers and five board members, is well on its way to raising money and awareness about Glade Run Lake.

The group recently began a membership campaign. The three-year memberships will cost $15 per family, $10 for adults and $5 for students.

Once the conservancy is designated as a nonprofit, it can begin to apply for state and other grant funding.

The conservancy wants to not only restore the lake, but turn the area into a park by adding a walking path, restrooms and shelters and make it handicapped accessible

"We have a real opportunity to make it even better for the community," Oare said.

Jodi Weigand can be reached at jweigand@tribweb.com or 412-320-7910.

Pittsburgh Tribune Review:

Banged-up stocks may be headed for rebound

By John Dorfman

Sunday, January 22, 2012

Some people like to care for injured birds. I like banged-up stocks.

That's why each quarter I compile a Casualty List of stocks that have taken big hits the quarter before. These are stocks that in my view have been punished too much, and have rebound potential.

The list you are about to read is the 35th one I have compiled, beginning in 2000. (I missed a few quarters, mostly because of my temporary retirement as a columnist.)

Twelve-month returns can be calculated for 31 of the previous lists. Twenty-two of them beat the Standard & Poor's 500 Index, and 24 were profitable.

On average, the previous lists have shown a 12-month return, including dividends of 26 percent, compared with 6.3 percent for the S&P 500. That illustrates my thesis that it pays to buy banged-up stocks if you believe the problems depressing them are temporary.

The results for my column recommendations are theoretical, and don't reflect taxes or transaction costs such as commissions.

In the fourth quarter of 2011, about 85 percent of all stocks rose. But among the decliners are a few stocks that interest me.

The largest is Oracle Corp. (ORCL) of Redwood City, Calif. A software leader, Oracle specializes in databases and servers. Its shares fell 10 percent in the fourth quarter.

Oracle fell mainly because its earnings for the fiscal second quarter (ended Nov. 30) disappointed investors. The company earned 43 cents for the quarter; analysts had expected 45 cents.

Never mind that the 43-cent figure was the best Oracle had ever posted in the November quarter. I think investors put too much emphasis on the rite of companies beating analysts' expectations.

Right now, Oracle shares fetch 14 times the company's per-share earnings. The average for the past decade has been 20 times earnings, so the stock is cheap relative to its own history.

Newmont Mining Corp. (NEM) fell about 5 percent in the quarter. The Greenwood Village, Colo., company is the largest gold producer based in the United States, and one of the five largest in the world.

There is no mystery about why Newmont shares fell. Spot prices for gold dropped from a peak of $1,900 per ounce in early September to a low of $1,546 at year-end.

I still believe the long-term trend for gold is up. As investors watch Congress and various European legislatures struggle with debt issues, they will want something they perceive as safer than paper currency.

At its recent share price of $63, Newmont sold for 14 times earnings. That's compared with a 10-year average P/E ratio of 44.

My third Casualty List pick is Chesapeake Energy Corp. (CHK) of Oklahoma City, a major natural-gas producer. Chesapeake shares fell 13 percent in the fourth quarter, on top of similar declines in the two previous quarters.

No one wants to go near natural-gas stocks at the moment, mainly because the spot price of natural gas for future delivery has fallen to $2.57 per million British thermal units recently from more than $11 at the 2008 peak.

A shortage of natural gas in the United States has turned into a glut, as many promising deposits have been found in shale formations, including the Marcellus.

Am I crazy to recommend a natural-gas stock in these circumstances? Perhaps. But the lower natural-gas price is already causing some consumers and businesses to switch to gas from oil or coal, and I expect that trend to continue.

Chesapeake just posted a record quarter for revenue ($3.3 billion) and profit ($922 million). Perhaps someone forgot to tell the company that it is in a terrible business.

John Dorfman can be reached at or .

How a municipality is designed can create elegance or chaos

By John Conti
FOR THE PITTSBURGH TRIBUNE-REVIEW
Sunday, January 22, 2012

In New York City this past year, they've been marking the 200th anniversary of Manhattan's grid.

Here in Western Pennsylvania, by contrast, folks in Mt. Lebanon this year will be celebrating the 100th anniversary of the suburb that ultimately broke Pittsburgh's relentlessly expanding grids.

Grid? Grids? What exactly are we talking about?

Well, the grid is something you always see but never notice. It's the layout of streets in neat perpendicular patterns. A grid has regular blocks, often of similar sizes, with easy-to-number streets and easy-to-identify intersections.

It's the world's oldest city-planning device and has been in use since before the days of the Greeks and Romans. It has shaped both cities and small towns in the United States. Grids can provide elegance or boredom, great vistas or stultifying "mean streets" depending on how a town uses them.

In Pittsburgh, we actually do much of the world one better. The compact center of our city -- our Downtown -- actually has two grids. Unfortunately, they don't meet neatly, making it difficult sometimes to give directions Downtown.

It's fun to speculate that this conflicting pattern, dating to the late 1700s, might have started the Pittsburgh tradition of giving directions by way of landmarks rather than street names. You know, the sort of thing that can drive newcomers crazy, such as "turn right where Isaly's used to be."

Still, nothing so momentous as the shape of our streets should ever be taken for granted. So, let's take a look at some of the implications of "the grid," starting with Manhattan and Pittsburgh and ending with Mt. Lebanon -- where 20th-century suburban neighborhoods developed from grid-busting curvilinear designs for 19th century cemeteries and parks.

In many cities, grids were laid out perpendicular to waterfronts. That's what happened in both Manhattan and Pittsburgh. In Manhattan, numbered cross streets (like 42nd Street) run in a neat straight line from the Hudson River to the East River. Numbered avenues (like Fifth Avenue) divide them, running roughly north to south.

In Pittsburgh, though, our rivers form a triangle, so one grid was laid out perpendicular to the Monongahela, while the other grid matched the Allegheny. Liberty Avenue is where the two grids meet.

It's possible in Manhattan to stand at the corner of First Avenue and 1st Street, pick any numbered avenue or any numbered street and know exactly how to get there. Not so in Pittsburgh. Here, if you look across Liberty at the end of Sixth Avenue you see Seventh Street.

What saves Manhattan from monotony -- as a current exhibit on "the grid" at the Museum of the City of New York makes clear -- are two things. One is Broadway, which runs the length of the island, often at angles, creating memorable spaces like Times Square. The other is Central Park. The park wasn't in the original plan for the grid in 1811, but city planners wisely decided 40 years later to provide for it.

Downtown Pittsburgh's two grids may be confusing, but our topography makes up for it. Look down our streets wherever they go toward the rivers, and you see compelling vistas of hillsides in either direction. Green hillsides in the summer are notably rare in major cities.

There's more. If you look down Fifth Avenue from, say, Macy's, Fifth Avenue Place looms at the end of the street, closing off the view. That's because the avenue is aligned with the Monongahela grid, while the building is aligned with the Allegheny one. The same thing happens on other streets Downtown. This is not bad at all, as the closed views give these streets a special sense of place. In short, our Downtown gives you two key spatial experiences: vistas at some points and enclosure at others.

As Pittsburgh expanded from Downtown in the 1800s, it continued with an unrelenting collection of unrelated grids, often built between hillsides, sometimes in spite of them. The Strip, the Hill, Oakland, East Liberty -- all have their own grids. Grids are efficient and encourage rapid development.

As the city's growth reached the South Hills in the early 1900s, developers imposed grids on some of the roughest terrain in the region. This is why there are so many steep hills in Beechview, Brookline and Dormont. Canton Street in Beechview is so steep the city won't let you drive down it (you have to drive up). Its 37 percent grade -- it drops 37 feet for every 100 feet -- is said to be the steepest in Pittsburgh.

This grid pattern continued into parts of what is now Mt. Lebanon. But, it was, eventually, supplanted there by curvilinear streets that reflected a "naturalistic" style for suburban design. Mt. Lebanon neighborhoods such as Mission Hills and Virginia Manor were designed in the 1920s using comparatively level curving roads laid out to go along with, rather than fight, the contours of the hills. This style suited the automobile, and by the 1950s virtually all suburbs were being built, for better or worse, with curvilinear roads.

Interestingly, this decisive change is owed in part to public enthusiasm for 19th-century cemeteries and, later, public parks that introduced this naturalistic landscape style to the United States. One influential early proponent of the style -- for both suburbs and parks -- was Frederick Law Olmsted, who, in the 1850s, took the lead in designing Manhattan's Central Park -- the greatest grid-buster of them all.

John Conti can be reached at tribliving@tribweb.com or .

When words collide

1/22/2012 3:32 AM

We received a news release Thursday from the Coast Guard in Pittsburgh regarding barges that broke away and struck bridges. The release contained a word that sent us scrambling to our library's dictionary shelf.

"The Coast Guard is responding to the report of an allision ..." it began.

When nothing like allision could be found in either Merriam Webster's Collegiate or the American Heritage, we suspected a typo. But alas, in Webster's Third New International (the big one, at 2,664 pages), we found it. Allision is a nautical term to describe one ship striking another ship that is stationery. (As opposed to a collision, which can occur only between moving objects.)

We learn something new every day.

DCNR firing causes stir

1/22/2012 3:34 AM

Associated Press

PITTSBURGH - The head of a citizens advisory committee on Pennsylvania's parks and forests has been fired, an action that fellow members and environmentalists say could reduce public oversight over gas drilling in state forests.

Kurt Leitholf, executive director of the state Department of Conservation and Natural Resources Citizens Advisory Council since 1996, was told last week by the Corbett administration that his position was being eliminated. Leitholf said he was disappointed by the decision.

Department spokeswoman Christina Novak said officials determined that funding a full-time executive director was "not cost-effective. She said departmental legislative liaison Joe Graci will perform Leitholf's duties in addition to his own.

Eric Martin, one of two remaining original council members, accused the administration of trying to pre-empt public oversight of the department amid Marcellus Shale gas drilling on forest land.

Pennsylvania has leased one-third of its 2.1 million-acre forest system for oil and gas drilling, including more than 130,000 acres for Marcellus Shale deep wells. The department during the previous administration warned that more oil and gas development would damage the ecology.

Jeff Schmidt, director of the Pennsylvania chapter of the Sierra Club, said the termination undercuts the independence of the advisory committee and will hamper its ability to scrutinize drilling in state forests and parks at a critical time.

"As the Corbett administration ignores public opinion and converts more and more of our public lands to gas drilling industrial zones, we need greater oversight, not less," he said.

The 19-member advisory council was established in 1995.

Members are appointed by the governor and General Assembly to provide independent advice on "conservation and stewardship of the commonwealth's natural resources."

----- Original Message -----
From: Debbie Borowiec
To: dsborowiec@aol.com
Sent: Sunday, January 22, 2012 12:20 AM
Subject: Important - Impacts of Gas Drilling on Human and Animal Health - Cornell Univ

http://ccetompkins.org/sites/all/files/8/Bamberger_Oswald.pdf

For anyone who believes that shale gas drilling is not a serious concern, please read this paper from Cornell University.

ABSTRACT

Environmental concerns surrounding drilling for gas are intense due to expansion of shale gas drilling operations.

Controversy surrounding the impact of drilling on air and water quality has pitted industry and lease - holders against individuals and groups concerned with environmental protection and public health.

Because animals often are exposed continually to air, soil, and groundwater and have more frequent reproductive cycles, animals can be used as sentinels to monitor impacts to human health. This study involved interviews with animal owners who live near gas drilling operations.

The findings illustrate which aspects of the drilling process may lead to health problems and suggest modifications that would lessen but not eliminate impacts.

Complete evidence regarding health impacts of gas drilling cannot be obtained due to incomplete testing and disclosure of chemicals, and nondisclosure agreements.

Without rigorous scientific studies, the gas drilling boom sweeping the world will remain an uncontrolled health experiment on an enormous scale.

Read entire article here:
http://ccetompkins.org/sites/all/files/8/Bamberger_Oswald.pdf

CONCLUSION

Animals, especially livestock, are sensitive to the contaminants released into the environment by drilling and by its cumulative impacts.

Documentation of cases in six states strongly implicates exposure to gas drilling operations in serious health effects on humans, companion animals, livestock, horses, and wildlife.

Although the lack of complete testing of water, air, soil and animal tissues hampers thorough analysis of the connection between gas drilling and health, policy changes could assist in the collection of more complete data sets and also partially mitigate the risk to humans and animals.

Without complete studies, given the many apparent adverse impacts on human and animal health, a ban on shale gas drilling is essential for the protection of public health.

In states that nevertheless allow this process, the use of commonsense measures to reduce the impact on human and animals must be required in addition to full disclosure and testing of air, water, soil, animals, and humans.

----- Original Message -----
From: stombond@hughes.net
To: Don Strimbeck
Sent: Saturday, January 21, 2012 9:16 PM
Subject: Fwd: Fw: Fracking' Mobilizes Uranium in Marcellus Shale FOR YOUR CONSIDERATION

News Release

'Fracking' Mobilizes Uranium in Marcellus Shale, UB Research Finds

UB geologist Tracy Bank and colleagues found that uranium and hydrocarbons in Marcellus shale are not just physically, but also chemically, bound. Background image from wikimedia user lvklock.

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Release Date: October 25, 2010

BUFFALO, N.Y. -- Scientific and political disputes over drilling Marcellus shale for natural gas have focused primarily on the environmental effects of pumping millions of gallons of water and chemicals deep underground to blast through rocks to release the natural gas.

But University at Buffalo researchers have now found that that process -- called hydraulic fracturing or "fracking"-- also causes uranium that is naturally trapped inside Marcellus shale to be released, raising additional environmental concerns.

The research will be presented at the annual meeting of the Geological Society of America in Denver on Nov. 2.

Marcellus shale is a massive rock formation that stretches from New York through Pennsylvania, Ohio and West Virginia, and which is often described as the nation's largest source of natural gas.

"Marcellus shale naturally traps metals such as uranium and at levels higher than usually found naturally, but lower than manmade contamination levels," says Tracy Bank, PhD, assistant professor of geology in UB's College of Arts and Sciences and lead researcher. "My question was, if they start drilling and pumping millions of gallons of water into these underground rocks, will that force the uranium into the soluble phase and mobilize it? Will uranium then show up in groundwater?"

To find out, Bank and her colleagues at UB scanned the surfaces of Marcellus shale samples from Western New York and Pennsylvania. Using sensitive chemical instruments, they created a chemical map of the surfaces to determine the precise location in the shale of the hydrocarbons, the organic compounds containing natural gas.

"We found that the uranium and the hydrocarbons are in the same physical space," says Bank. "We found that they are not just physically -- but also chemically -- bound.
"That led me to believe that uranium in solution could be more of an issue because the process of drilling to extract the hydrocarbons could start mobilizing the metals as well, forcing them into the soluble phase and causing them to move around."
When Bank and her colleagues reacted samples in the lab with surrogate drilling fluids, they found that the uranium was indeed, being solubilized.
In addition, she says, when the millions of gallons of water used in hydraulic fracturing come back to the surface, it could contain uranium contaminants, potentially polluting streams and other ecosystems and generating hazardous waste.
The research required the use of very sophisticated methods of analysis, including one called Time-of-Flight Secondary Ion Mass Spectrometry, or ToF-SIMS, in the laboratory of Joseph A. Gardella Jr., Larkin Professor of Chemistry at UB.
The UB research is the first to map samples using this technique, which identified the precise location of the uranium.
"Even though at these levels, uranium is not a radioactive risk, it is still a toxic, deadly metal," Bank concludes. "We need a fundamental understanding of how uranium exists in shale. The more we understand about how it exists, the more we can better predict how it will react to 'fracking.'"
Bank conducted the experiments with UB Department of Geology graduate students Thomas Malizia and Lauren Fortson, and Lisa Andresky, an undergraduate student from Slippery Rock University in Pennsylvania. Andresky worked in Bank's lab during the summer while on a National Science Foundation-funded Research Experience for Undergraduates in UB's Ecosystem Restoration through Interdisciplinary Exchange (ERIE) program.
The University at Buffalo is a premier research-intensive public university, a flagship institution in the State University of New York system and its largest and most comprehensive campus. UB's more than 28,000 students pursue their academic interests through more than 300 undergraduate, graduate and professional degree programs. Founded in 1846, the University at Buffalo is a member of the Association of American Universities.